

H0001788**Abstract**

A multi-axis laser scanner and receiver capable of providing laser scanning in multiple fields of view using a microscanner and a fold mirror with a patterned aperture. The fold mirror has a transmissive central region and a periphery that is reflective. Such scanners can be employed in a helicopter to scan in the forward field of view for obstacle detection, and in an upward field of view for air data measurements. Additional fields of view can be added, for example, to provide downward scans to detect height above terrain and ground speed.